

RESULTS: LEAN MANUFACTURING

SPECTRUM THERMAL PROCESSING HEATS UP EMPLOYEE ENGAGEMENT WITH LEAN 5S

COMPANY PROFILE

Spectrum Thermal Processing serves the aerospace, automotive, electronic, medical, and machine tool industries with specialty heat treating and brazing capabilities. The facility is ISO 9001:2015 and AS9100 Rev. D registered and Nadcap AS7003 certified. They provide a broad range of customers with vacuum brazing, vacuum oil quenching, surface enhancement including low-pressure vacuum carburizing and gas nitriding, and more.

SITUATION

Management wanted to improve communication between themselves and employees, between co-workers, between shifts, and ultimately between the company and their customers.

Even though Spectrum Thermal Processing had achieved special accreditations and produced high-quality products, management knew there was room to improve their ability to efficiently process the wide range of jobs passing through their shop each day.

There were a number of factors that might have affected their process efficiency. Space consideration was also a challenge given the need to save packaging in which parts arrived to re-use for shipping back to the customer following treatment. There had been problems maintaining the shipping containers and packaging in good condition for return shipment.

SOLUTION

Use Lean 5S principles of Sort, Set in Order, Shine, Standardize and Sustain as communication vehicle to improve operations and instill a "passion of ownership" throughout the business.

Spectrum Thermal Processing brought in Polaris MEP project managers to work at all levels in the organization to develop a more uniform materials handling system, minimize time between steps in the process and reduce damage from mishandling parts. Following the 5S principles, teams began using charts posted at each furnace to increase "value-add" time.

"In one case", said Steve Egan, General Manager at Spectrum, "employees identified a way to reduce load to load turnaround time from one hour to five minutes, allowing the furnace to process one extra load in the two shift operation and creating a 25% increase in capacity."

Polaris MEP staff also assisted teams with producing "spaghetti diagrams" showing how parts "travel" through the shop. This revealed an opportunity to move the lab and shipping areas together, eliminate steps, and open up space for much needed additional shelving.

Among the lean manufacturing changes implemented, the team concentrated the production of five furnaces into three which resulted in significant savings. Eliminating these two furnaces also created space on the shop floor for other operations and for shelving to hold original packaging materials until completed orders could be repackaged for delivery.



IMPACTS



Eliminated maintenance, calibration and electrical costs of two furnaces, saving **\$4,000** per month



Consistently reduced unscheduled furnace downtime



Increased by **14%** the lbs per shop-hour and increased by **12%** the order per shop-hour in last 12 months.



Increased capacity of one furnace by **25%** by reducing load to load turnaround



Employees often surface operational efficiency ideas as business grows

Read the full Success Story at

<https://bit.ly/37ILSoG>



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”

Steve Egan

General Manager



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